

**What I claim is:**

Claim 1. A cleaning device comprising a body made of porous polyvinyl acetal material having a uniform pore size throughout the material with over 90% of the pores ranging from about 7 microns to about 40 microns in diameter.

Claim 2. A cleaning device as claimed in claim 1 wherein said device is a roller having a smooth outer surface.

Claim 3. A cleaning device as claimed in claim 1 wherein said device is a pad.

Claim 4. A cleaning device as claimed in claim 1 wherein said device is a disk.

Claim 5. A cleaning device as claimed in claim 1 wherein said polyvinyl acetal material has an average pore size of about 20 microns.

Claim 6. A cleaning device as claimed in claim 1 wherein said material has about 95% of its pores with a diameter below 40 microns.

Claim 7. A cleaning device comprising a body made of porous polyvinyl acetal material having a bubble point pressure of about 0.92 PSI.

Claim 8. A cleaning device as claimed in claim 2 wherein said roller has an outside diameter of about 60mm and an inside diameter of about 30mm with a thickness of about 15mm.

Claim 9. A cleaning device as claimed in claim 1 wherein said material has a mean flow pore pressure of about 0.33 PSI.

Claim 10. A semiconductor cleaning device comprising a body made of porous polyvinyl acetal material with a cylindrical roller shape and a smooth outer surface, said material having a uniform pore size throughout with at least 90% of the pores ranging from

about 7 microns to about 40 microns in diameter with a fluid flow through rate which does not distort the roller during the cleaning process.

Claim 11. A semiconductor cleaning device as claimed in claim 10 wherein said polyvinyl acetal material has an average pore size of about 20 microns.

Claim 12. A semiconductor cleaning device as claimed in claim 10 wherein said material has 95% of its pores with a diameter below 40 microns.

Claim 13. A semiconductor cleaning device comprising a body made of porous polyvinyl acetal material having at least 95% of its pores with a diameter under 40 microns.

Claim 14. A semiconductor cleaning device as claimed in claim 10 wherein said roller is substantially skinless.

Claim 15. A semiconductor cleaning device as claimed in claim 10 wherein said material has a mean flow pore pressure of about 0.33 PSI.

Claim 16. A semiconductor cleaning device comprising a body made of porous polyvinyl acetal material having a uniform pore size throughout the material with at least 95% of the pores being less than 40 microns in diameter, said material having a mean flow pore diameter of about 20 microns.

Claim 17. A semiconductor cleaning device as claimed in claim 16 wherein said material has a mean flow pressure of about 0.33PSI.

Claim 18. A semiconductor cleaning device comprising a substantially cylindrical roller body made of polyvinyl acetal with a smooth outer surface and uniform material porosity having a mean flow pore pressure ranging from about 0.30 PSI to about 0.40 PSI with 90% of its pores ranging from 7 to 40 microns and wet flow rate using water as a

medium ranging from about 9.0 L/min to 20.0 L/min.

Claim 19. A semiconductor cleaning device as claimed in claim 18 wherein cleaning solvent flow through said roller ranges from 120 - 180 ml/minute.